U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
PB80-139348

Revised Prioritized List of Source Categories for NSPS (New Source Performance Standards) Promulgation

Argonne National Lab, IL Energy and Environmental Systems Div

Prepared for

Environmental Protection Agency, Research Triangle Park, NC Emission Standards and Engineering Div

Mar 79

PB80-139748

United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Research Triangle Park NC 27711

EPA-450/3-79-023
March 1979

Air

EPA

Revised Prioritized List of Source Categories for NSPS Promulgation

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
EPA-450/3-79-023		PB 80 139348

4. TITLE AND SUBTITLE	5. REPORT DATE
Revised Prioritized List of Source Categories for NSPS Promulgation	March, 1979
	6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S)	8. PERFORMING ORGANIZATION REPORT NO.
M. R. Monarch	
9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT NO.
Energy and Environmental Systems Division Argonne National Laboratory Argonne, Illinois 60439	11. CONTRACT/GRANT NO. IAG-D7-0 1075
12. SPONSORING AGENCY NAME AND ADDRESS	13. TYPE OF REPORT AND PERIOD COVERED
Emission Standards and Engineering Division Office of Air Quality Planning and Standards U. S. Environmental Protection Agency Research Triangle Park, NC 27711	Final 14. SPONSORING AGENCY CODE

15. SUPPLEMENTARY NOTES

16. ABSTRACT

The Clean Air Act Amendments of 1977 require that the USEPA consider specific criteria in determing priorities for setting NSPS for major source categories: quantity of air pollutant emissions, extent to which air pollutant emissions endanger public health and welfare and the mobility and competitive nature of each source category. A previous report (EPA-450/3-78-019) describes a methodology that has been developed for prioritizing source categories using the Clean Air Act criteria. The methodology, which employs three distinct computer programs, was applied to a data set of over 150 major source categories for nine different air pollutant emissions (particulate matter, sulfur dioxide, nitrogen oxides, hydrocarbons, carbon monoxide lead, sulfuric acid mist, hydrogen sulfide, and fluorides). The program output is a prioritized list of source categories for NSPS promulgation over a ten year period based on a multipollutant source category emission analysis, and was used to propose standard-setting priorities. This report incorporates input data revisions resulting from comments on the proposed list and is used to determine a revised NSPS priority list.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Air Pollution Stationary Sources New Source Performance Standards		

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(This Report)*	21. NO. OF PAGES
Release Unlimited	Unclassified	90
	20. SECURITY CLASS *(This page)*	22. PRICE
	Unclassified	A03- A01

EPA Form 2220-1 (Rev. 4-77) PREVIOUS EDITION IS OBSOLETE

EPA-450/3-79-023

Revised Prioritized List of Source Categories for NSPS Promulgation

by

M.R. Monarch

Energy and Environmental Systems Division
Argonne National Laboratory
Argonne, Illinois 60439

Interagency Agreement No. D-7-0 1075

EPA Project Officer: Gary McCutchen

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air, Noise, and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

March 1979

1 BACKGROUND

Section 111(f) of the Clean Air Act[1](CAA) requires that EPA publish a list of major stationary sources of air pollution not already listed under Section 111(b)(1)(A); that is, for which NSPS had not, as of August 7, 1977, been proposed or promulgated. The list was to be promulgated by August 7, 1978, after EPA had provided notice of an opportunity for public hearings and consulted with Governors and State air pollution control agencies. In developing priorities, EPA was to consider (1) the quantity of emissions from each source category, (2) the extent to which each pollutant endangers public health or welfare, and (3) the mobility and competitive nature of each stationary source category, e.g., the capability of a new or existing source to locate in areas with less stringent air pollution control regulations. After the list is promulgated, Governors may submit applications under Section 111(g) to add major source categories to the list, add any source category to the list which may endanger public health or welfare, change the priority ranking, or revise promulgated NSPS.

Argonne National Laboratory (ANL), under contract with EPA, initiated development of this list by compiling information on a large number of source categories from a number of literature resources. This preliminary list was evaluated using the criteria specified in Section 111(f) of the CAA. A draft report describing this analysis was reviewed by the National Air Pollution Control Techniques Advisory Committee on April 6, 1978.

A final report published in April 1978 (see Ref. 2 - *Priorities for NSPS Under the Clean Air Act Amendments of 1977*, EPA-450/3-78-019) describes the methodology used to apply the criteria and provides the resource material used in developing the list.

2 NSPS PRIORITIZATION PROGRAM

The source category data were first analyzed to determine those sources which have the potential to emit 100 tons or more per year of any one pollutant. These major source categories were then subjected to a priority ranking procedure using the three criteria specified in the CAA. The priority ranking procedure used represents an extension of an earlier Argonne procedure[3] developed to prioritize NSPS source categories using an extensive industrial data base developed by TRC, Inc.[4]

In summary, the prioritization procedure first ranks source categories on a pollutant by pollutant basis. This results in nine lists [one for each pollutant -- hydrocarbons (HC), nitrogen oxides (NO_x), particulate matter (PM), sulfur dioxide (SO_2), carbon monoxide (CO), lead (Pb), fluorides (F), acid mist (AM), and hydrogen sulfide (H_2S)] with each list ranked using the criteria in the CAA. In this ranking, first priority is given to quantity of emissions, second priority to potential impact on health and welfare, and third priority to mobility. Thus, sources with the greatest growth rates and emission reduction potential are high on each list; sources with limited choice of location, low growth and small emission potential are low on each list.

The nine lists are combined into one by selecting pollutant goals -- a procedure which, in effect, assigns a relative priority to pollutants based upon the potential impact of NSPS. After the pollutant goals are selected, the final priority list is established through the selection of source categories which will have maximum impact on attaining the selected goals. The effect of this procedure is to emphasize control of organic (hydrocarbon), particulate matter, sulfur dioxide, and NO_x emissions and to give carbon monoxide and noncriteria pollutants a lower priority.

The ranking of source categories on the list and, in fact, the differentiation between major and minor sources is sensitive to the accuracy of the data utilized. The ranking is especially sensitive to emission factors, source sizes, mobility, and source category growth rates. Because the original data base used to establish the priority list was obtained from a number of literature sources and because time was not available to perform an independent verification of these data, it was expected that further study will identify certain inaccuracies in the original data base.

3 REVISED DATA BASE

EPA published the proposed list of major source categories in the Federal Register (see 43 FR 38872, August 31, 1978). Copies of the *Prioritization Document*[2] were submitted to the Governors of the States and were made available to the general public.

EPA forwarded to ANL for revaluation comments received on the prioritization of major source categories. These comments came from the public sector and from EPA staff. Due to both EPA and public comments, ANL reexamined

34 major source category data sets out of the 156 source category data sets in the original prioritized list. ANL also reexamined 11 minor source category data sets.

3.1 IMPACT OF DATA CHANGES ON MINOR SOURCE CATEGORIES

As a result of both EPA and public comments, 11 minor source categories were reexamined and data changes were made for nine source categories. In addition, one source category (i.e., Printing Ink Mfgr.) was reclassified from a major source to a minor source category. Table 3-1 illustrates the change in potential emission reduction (i.e., Ts-Tn) as a result of the data changes. Table 3.1 indicates some significant potential emission reduction for hydrocarbon source categories resulting from data set revisions.

3.2 IMPACT OF DATA CHANGES ON MAJOR SOURCE CATEGORIES

As a result of EPA and public sector comments on the original prioritized list proposed in the Federal Register, ANL reexamined 34 major source category data sets. The reexamination resulted in data changes for 22 major source categories, which included reclassifying one major source category as a minor source category (i.e., Printing Ink Mfgr.). In addition, seven major source categories were removed from the prioritized list. Six of these source category deletions resulted from up-dated data indicating essentially zero new and replacement source category growth. These source categories are: Varnish/Oleo-Resin, Steel/Open Hearth, High Explosive Waste Mfgr., Grey Iron Cupola, Hydrofluoric Acid Mfgr. and High Btu Gasification. ANL was unable to determine acceptable input data for the Low Explosives Mfgr. Industry, therefore, this source category was dropped from the list.

3.3 IMPACT OF PROGRAM CORRECTION ON PRIORITIZATION LIST

In addition to source category data set changes, a modification to the prioritization program caused some changes to the prioritized list. In the original prioritization program, no provision was made to ignore standard setting for pollutant emissions with a zero Ts-Tn value. For instance, a major source category may have a high Ts-Tn for hydrocarbons and a zero Ts-Tn for particulate emissions and the source category have a high air quality impact for both pollutants. In the development of the original list, the program was

Table 3-1. Minor Source Category Data Change Impact on (Ts-Tn)[a]

Source Category / Pollutant	(Ts-Tn) ton/yr Old	New	% Change
Wood Furniture			
HC	32,600	451,000	1283
Metal Furniture			
HC	31,300	172,000	449
Mica Mining			
PM	310	520	68
Mica Drying			
PM	610	520	-15
Lead Pigment Red			
Pb	b	b	---
Lead Pigment White			
Pb	b	b	---
Lead Pigment Chromate			
Pb	b	b	---
Graphic Arts Lithography			
HC	26,300	44,000	67
Polyisoprene			
HC	100	310	210
Printing Ink Mfgr.			
HC	10,590	8,200	-23

[a]Ts - Emissions in 1990 under existing (1980) state emission limits (tons/yr).

Tn - Emissions in 1990 under proposed NSPS level of emission control where NSPS is in effect in 1980 (tons/yr).

[b]Source categories indicate small potential emission reduction or decreasing capacity.

not instructed to ignore zero Ts-Tn source category/pollutant sets. This problem was corrected and resulted in some shift in source category prioritization irrespective of input source category data set changes.

The elimination of the zero Ts-Tn source category/pollutant sets also resulted in the elimination of some source categories from the list where these source categories had no Ts-Tn values greater than zero. These source categories and the pollutant list from which they were removed are:

Source Category	Pollutant List
Acetic Acid (Butane)	HC, CO
Fiberglass (Textile Process)	PM, NO, CO, FL
Stone Quarrying	PM
Synthetic Rubber	PM
Textile Mfgr. (Heat Setting/Finishing)	HC
Gasoline Additives (Electrolytic)	Pb
Gasoline Additives (Sodium-Lead)	Pb

Table 3-2 is the revised prioritized list of source categories for NSPS promulgation based on source category data changes. A prioritization by (Ts-Tn) requires that the source categories be divided into three distinct groups of high, moderate, and low (Ts-Tn). The range of (Ts-Tn) values for the three groups in the new data set is the same as was used in the original data set. The distribution of source categories among the three (Ts-Tn) groups is roughly the same for both the original and new data sets. In the original data set there were 34 high (Ts-Tn) source categories, 58 moderate and 64 low. In the revised data set there are 29 high (Ts-Tn) source categories, 55 moderate and 64 low.

Table 3-3 indicates the impact data changes had on the source category prioritization rank. Since the total list of prioritized major source categories was reduced from 156 to 148 due to source category deletions, the source category rank is also presented in normalized format for comparative purposes. Table 3-3 contains all the major source categories which received either EPA or public comment except those major source categories deleted from the list. Examination of Table 3-3 indicates that over 60% of the source categories receiving comment incurred only minor change in prioritization rank.

Table 3-4 shows the effectiveness of the prioritized standard setting schedule on emission reduction over a ten year period from 1980 to 1990. The table is similar to Table 3-14 in the original prioritization report.[2] The

TABLE 3-2 REVISED LIST FOR COMBINED POLLUTANT ANALYSIS, BASELINE STRATEGY (THREE YEAR STANDARD SETTING PERIOD)
MARCH, 1979

YEAR	CUMULATIVE EFFORT	POLLUTANT	STANDARD NUMBER	SOURCE	STANDARD USED	CODE	FLAG
1980.0							
	1.00	HC		ETHYLENE OXIDE PLANTS (AIR OXIDATION PROCESS)	1.679999	21 C11	N2
	2.00	HC		ACRYLONITRILE PLANTS	7.919999	20 C06	N2
	2.25	CO			8.000000	20 C06	N5
	3.25	HC		DIMETHYL TEREPHTHALATE PLANTS	0.370000	20 C28	N2
	4.25	HC		MALEIC ANHYDRIDE	2.620000	20 C23	N2
	4.50	CO			15.599999	20 C23	N5
	5.50	HC		INDUSTRIAL SURFACE COATING (CAN COATING)	0.050000	62 B03	N2
	6.50	HC		(AGG) PETROLEUM REFINERY MISC. SOURCES	0.015000	71 D01	N1
	7.50	HC		INDUSTRIAL SURFACE COATING (PAPER COATING)	0.260000	63 B03	N1
	8.50	HC		DRY CLEANING	24.399994	60 B01	N2
	9.50	HC		GRAPHIC ARTS INDUSTRY (GRAVURE)	65.000000	60 B04	N2
	10.50	HC		PLASTICS AND RESINS (ACRYLIC)	2.400000	20 B17	N5
	11.50	HC		CARBON BLACK (FURNACE PROCESS)	0.800000	20 C03	N5
	11.75	PM			2.000000	20 C03	N4
	12.00	CO			9.799999	20 C03	N5
	12.25	HS			0.600000	20 C03	N5
	13.25	HC		MINERAL WOOL MFG	0.869000	40 D13	N4
	13.50	PM			3.629999	40 D13	N4
	13.75	SO			0.0	40 D13	N6
	14.00	NO			0.050000	40 D13	N6
	14.25	CO			4.719999	40 D13	N5
	15.25	HC		PHTHALIC ANHYDRIDE PLANTS (OXYLENE PROCESS)	0.020000	20 C26	N5
	15.50	PM			2.400000	20 C26	N4
	15.75	CO			3.009999	20 C26	N5
	16.75	HC		STATIONARY INTERNAL COMBUSTION ENGINES (SPARK IGNITION)	0.0	10 C01	N5
	17.00	SO			0.0	10 C01	N6
	17.25	NO			131.000000	10 C01	N4
	17.50	CO			0.0	10 C01	N6
	18.50	HC		INDUSTRIAL SURFACE COATING (FABRIC COATING)	0.260000	64 B02	N4
	19.50	HC		STATIONARY INTERNAL COMBUSTION ENGINES(DIESEL & DUAL FUEL)	0.0	10 C02	N5
	19.75	PM			5.139999	10 C02	N5
	20.00	SO			16.000000	10 C02	N4
	20.25	NO			123.000000	10 C02	N4
	20.50	CO			0.0	10 C02	N5
	21.50	HC		INDUSTRIAL BOILERS (10-250X10E6 BTU/HR)	0.0	10 A03	N5
	21.75	SO			1.500000	10 A03	N4
	22.00	NO			0.365000	10 A03	N5
	22.25	CO			0.0	10 A03	N5
	22.50	FL			0.000500	10 A03	N5
	23.50	PB		INDUSTRIAL INCINERATION (INDUSTRIAL-COMMERCIAL)	0.010000	11 B04	N2
	23.75	PM			0.035000	11 B04	N2
	24.00	NO			0.650000	11 B04	N2
	25.00	PM		CHEMICAL WOOD IND. (NSSC)	3.400000	80 A03	N1
	25.25	SO			0.016000	80 A03	N5
	26.25	PM		(AGG) NON-METALLIC MINING - CLAY	35.519999	41 F01	N1
	27.25	PM		PHOSPHATE ROCK (MINING)	6.000000	44 F01	N1
	28.25	NO		STATIONERY PIPELINE COMPRESSOR ENGINES	15.199999	11 C01	N5
	28.50	PM			0.830000	11 C01	N6
	28.75	SO			5.000000	11 C01	N6
	29.00	CO			9.639999	11 C01	N5
	30.00	PM		SAND & GRAVEL PROCESS	0.420000	40 A02	N2
	31.00	PM		(AGG) NON-METALLIC MINING - GYPSUM	5.039999	42 F01	N1

	32.00	PM	METALIC MINERALS MINING (COPPER)	0.070000	43 E01	N2
1980.5						
	1.00	PM	(AGG) NON-METALLIC MINING - LIME	6.299999	43 F01	N1
	2.00	PM	(AGG) FEED AND GRAIN MILL INDUSTRY	0.193000	30 E01	N4
	3.00	PM	(AGG) SECONDARY COPPER PLANTS (CONVERTER SMELTING)	0.330000	58 B01	N4
	3.25	SO		87.000000	58 B01	N5
	4.25	PM	(AGG) PHOSPHATE ROCK PREPARATION PLANTS	1.389999	41 D01	N4
	5.25	PB	GREY IRON FOUNDRIES (ELECTRIC ARC)	0.0	50 C02	N3
	5.50	PM		0.070000	50 C02	N3
	6.50	PB	METALIC MINERALS MINING (FERROALLOY)	0.003000	42 E01	N2
	6.75	PM		0.600000	42 E01	N2
	7.75	HC	ETHYLENE DICHLORIDE PLANTS (OXYCHLORINATION PROCESS)	0.540000	20 C07	N2
	8.00	CO		0.013000	20 C07	N6
	9.00	HC	ACRYLIC ACID	1.740000	20 C47	N2
	9.25	CO		0.240000	20 C47	N5
	10.25	PB	MUNICIPAL INCINERATION < 50T/D	0.0	10 B03	N4
	10.50	PM		0.300000	10 B03	N5
	10.75	SO		0.030000	10 B03	N5
	11.00	NO		1.049999	10 B03	N6
	11.25	HC		0.010000	10 B03	N6
	12.25	HC	CYCLOHEXANOL/CYCLOHEXANONE	1.007000	20 C49	N2
	12.50	CO		1.115000	20 C49	N5
	13.50	HC	PROPYLENE (OXIDE)	0.592000	20 C36	N2
	14.50	HC	METHYL METHACRYLATE PLANTS	1.127999	20 C34	N2
	15.50	HC	VINYL ACETATE (ETHYLENE)	0.430000	20 C37	N2
	16.50	HC	TEREPHTHALIC ACID PLANTS	0.210000	20 C27	N3
	17.50	HC	ETHYLENE-PROPYLENE	0.720000	20 D06	N2
	18.50	HC	ETHYLENE OXIDE PLANTS (OXYGEN OXIDATION PROCESS)	0.430000	22 C11	N2
	19.50	HC	POLYETHYLENE (HIGH DENSITY)	0.591000	20 B03	N2
	19.75	NO		11.250000	20 B03	N2
	20.75	HC	METHANOL PLANTS	0.100000	20 C32	N2
	21.00	CO		0.100000	20 C32	N5
	22.00	HC	CHARCOAL PLANTS	4.799999	20 C16	N2
	22.25	PM		4.000000	20 C16	N4
	22.50	CO		3.200000	20 C16	N5
	23.50	HC	CYCLOHEXANE	0.200000	20 A14	N2
	23.75	CO		0.250000	20 A14	N5
	24.75	HC	ETHYLENE GLYCOL DERIVED FROM ETHYLENE OXIDE	0.349000	20 C35	N2
	25.00	SO		0.004000	20 C35	N5
	25.25	NO		0.010000	20 C35	N6
	26.25	HC	SYTHETIC RUBBER (NEOPRENE)	1.200000	20 D07	N2
	27.25	HC	FORMALDEHYDE PLANTS	0.054000	20 C08	N3
	27.50	CO		0.157000	20 C08	N5
	28.50	HC	ADIPIC ACID PLANTS	0.043000	20 A04	N3
	28.75	NO		1.610000	20 A04	N5
	29.00	CO		0.115000	20 A04	N5
	30.00	HC	CARBON TETRACHLORIDE (METHANE)	0.360000	20 C38	N2
	31.00	HC	POLYETHYLENE (LOW DENSITY)	0.240000	20 B04	N2
	31.25	PM		0.045000	20 B04	N5
	32.25	HC	ETHYL BENZENE	0.050000	20 C30	N2
1981.0						
	1.25	HC	ACETIC ANHYDRIDE	0.170000	20 C48	N2
	1.50	PM		0.001000	20 C48	N5
	1.75	CO		0.219000	20 C48	N5
	2.75	HC	VEGETABLE OIL MFG.	16.699997	30 D11	N2
	3.00	PM		0.630000	30 D11	N4
	4.00	HC	INDUSTRIAL SURFACE COATING (METAL COILS COATING)	0.320000	63 E02	N2
	5.00	HC	P.T.M. ID. (SHIP & BARGE TRANSFER, GAS. & CRUDE OIL)	0.001300	60 F03	N1

	6.00	HC	BY-PRODUCT COKE OVEN	0.042000	50	A10	N2
	6.25	PM		0.215000	50	A10	N4
	7.25	HC	GRAPHIC ARTS INDUSTRY (FLEXOGRAPHY)	26.000000	60	B05	N2
	8.25	HC	ETHYLENE	0.330000	20	C31	N4
	8.50	SO		0.014900	20	C31	N5
	9.50	HC	SYNTHETIC FIBER INDUSTRY (NYLON)	0.350000	20	B09	N4
	9.75	PM		0.750000	20	B09	N4
	10.75	HC	PLYWOOD MANUFACTURING PLANT	0.0	80	B01	N4
	11.00	PM		0.001300	80	B01	N2
	12.00	HC	WHISKEY	0.000055	30	D08	N5
	12.25	PM		0.002200	30	D08	N2
	13.25	HC	INDUSTRIAL SURFACE COATING (AUTOMOBILES)	0.310000	62	B02	N5
	14.25	HC	INDUSTRIAL SURFACE COATING (LARGE APPLIANCE COATING)	0.065000	61	B02	N5
	15.25	HC	INDUSTRIAL SURFACE COATING (MAGNET WIRE COATING)	0.065000	61	B03	N5
	16.25	HC	GRAPHIC ARTS INDUSTRY (LETTERPRESS)	35.000000	60	B07	N4
	17.25	HC	P.T.M. ID. (BULK GAS. TERMINALS) LOADING TANK TRUCKS/RR CAR	0.003600	60	F04	N4
	18.25	HC	MIXED FUEL BOILERS (COAL & REFUSE)	0.0	10	A06	N5
	18.50	PM		0.300000	10	A06	N5
	18.75	SO		0.140000	10	A06	N5
	19.00	NO		5.250000	10	A06	N4
	19.25	AM		0.010000	10	A06	N5
	20.25	HC	(AGG) CRUDE OIL AND NATURAL GAS PRODUCTION PLANTS	0.131000	71	E01	N6
	20.50	SO		0.011000	71	E01	N1
	21.50	PB	METALIC MINERALS MINING (LEAD MINING)	0.010000	44	E01	N4
	21.75	PM		0.700000	44	E01	N4
	22.75	HC	INDUSTRIAL INCINERATION (IND ORGANIC LIQUID WASTE INC)	0.0	12	B04	N6
	23.00	PM		5.400000	12	B04	N4
	23.25	NO		0.150000	12	B04	N5
	23.50	CO		0.0	12	B04	N6
	24.50	PB	METALIC MINERALS MINING (ZINC MINE & CRUSHING)	0.010000	45	E01	N4
	24.75	PM		0.700000	45	E01	N4
	25.75	PM	(AGG) SECONDARY ALUMINUM PLANTS	4.309999	51	B12	N2
	26.75	PM	POTASH	0.660000	20	A18	N2
	27.00	NO		0.025000	20	A18	N5
	28.00	PM	METALIC MINERALS MINING (URANIMUN)	0.110000	47	E01	N3
	29.00	PM	FLY-ASH SINTERING (SINTERING)	1.099999	40	D17	N2
	30.00	PM	(AGG) NON-METALLIC MINING - BORON COMPOUNDS	1.059999	45	F01	N1
	31.00	PM	STEEL FOUNDRIES (ELECTRIC ARC)	0.260000	50	D01	N5
	32.00	PM	BEER PROCESSING PLANTS	0.270000	30	D09	N4
1981.5							
	1.00	PM	METALIC MINERALS MINING (IRON ORE)	0.500000	41	E01	N4
	2.00	PM	METALIC MINERALS MINING (ALUMINUM)	0.110000	46	E01	N5
	3.00	PM	GLASS MANUFACTURING INDUSTRY (SODA-LIME GLASS)	0.022000	40	D07	N6
	3.25	SO		0.120000	40	D07	N6
	3.50	NO		0.360000	40	D07	N6
	4.50	PM	GYPSUM MANUFACTURING PLANTS (CALCINER)	0.100000	40	D11	N6
	5.50	PM	SODIUM CARBONATE PLANT (NATURAL PROCESS)	0.450000	20	C24	N6

1981.5							
	6.50	PB	GREY IRON FOUNDRIES (REVERBERATORY)	0.0	50	C03	M3
	6.75	PM		0.100000	50	C03	M5
	7.75	PB	GLASS MANUFACTURING INDUSTRY (LEAD GLASS)	0.060000	40	D19	M5
	8.00	PM		0.240000	40	D19	M6
	8.25	SO		0.000000	40	D19	M3
	8.50	NO		0.390000	40	D19	M6
	9.50	PB	(AGG) SECONDARY ZINC SMELTERS (HORIZ & REVERB FURNACES)	0.050000	51	E02	M4
	9.75	PM		0.730000	51	E02	M4
	10.00	FL		0.023100	51	E02	M2
	11.00	PB	(AGG) SECONDARY ZINC SMELTERS (RETORT REDUCTION & KETTLE FURNACES	0.050000	51	E01	M4
	11.25	PM		2.580000	51	E01	M4
	11.50	FL		0.077000	51	E01	M2
	12.50	HC	CARBON TETRACHLORIDE (PROPANE)	0.320000	20	C39	M2
	13.50	HC	CARBON TETRACHORIDE (CARBON DISULFIDE)	0.320000	20	C40	M2
	14.50	HC	PHENOL PLANTS	0.044000	20	C33	M2
	14.75	CO		0.005000	20	C33	M6
	15.75	HC	ACETONE (ISOPROPANOL)	0.130000	20	C42	M2
	16.75	HC	METHYL CHLOROFORM	0.360000	20	C44	M3
	17.75	HC	ACETONE (CUMENE)	0.072000	20	C41	M2
	18.75	HC	POLY-BUTADIENE	0.090000	20	D02	M2
	19.75	HC	PHENOLIC RESINS	0.075000	20	B10	M2
	20.75	HC	ACETATE RAYON	0.350000	20	B13	M2
	21.75	HC	UREA-MELAMINE	0.075000	20	B11	M2
	22.75	HC	ALLYL CHLORIDE	0.200000	20	C46	M3
	23.75	HC	ACETONE (CYANOHYDRIN)	0.020000	20	C43	M2
	24.75	HC	AMMONIA PLANTS	0.0	21	C13	M5
	25.75	HC	ACETIC ACID (ACETALDEHYDE)	0.196000	20	A11	M5
	26.00	CO		0.040000	20	A11	M6
	27.00	SO	CHEMICAL WOOD PULPING IND. (ACID SULFITE)	11.900000	80	A04	M1
	27.25	PM		2.440000	80	A04	M1
	28.25	HC	POLYSTYPENE	0.120000	20	B05	M5
	29.25	SO	(AGG) SECONDARY COPPER PLANTS (BLAST FURNACE)	7.679999	57	E01	M2
	29.50	PM		0.198000	57	E01	M5
	29.75	FL		0.078000	57	E01	M2
	30.75	HC	ABS-SAN RESIN PLANT	0.075000	20	B12	M5
	31.75	HC	STYRENE	0.016400	20	C45	M5
	32.00	PM		0.004000	20	C45	M6
	32.25	NO		0.004000	20	C45	M6
1982.0							
	1.25	HC	ACETIC ACID (METHANOL)	0.150000	20	A12	M5
	2.25	HC	FIBERGLASS MFG. PLANTS (WOOL PROCESSING)	2.099999	40	D14	M3
	2.50	SO		0.005000	40	D14	M5
	2.75	NO		1.570000	40	D14	M4
	3.00	CO		2.240000	40	D14	M6
	3.25	FL		0.002000	40	D14	M2
	4.25	HC	POLYPROPLYENE	0.236000	20	B07	M4
	4.50	PM		0.030000	20	B07	M5
	5.50	HC	PHTHALIC ANHYDRIDE PLANTS (NAPTHALENE PROCESS)	0.100000	20	C25	M5
	5.75	FM		0.920000	20	C25	M3

	6.00	CO		1.000000	20	C25	M5
	7.00	HC	(AGG) ASPHALT ROOFING PLANTS	0.430000	41	B01	N4
	7.25	PM		0.550000	41	B01	N4
	7.50	CO		0.015000	41	B01	N6
	8.50	SO	(AGG) TUNNEL KILNS(COAL),DRYERS AND STORAGE	0.720000	45	D12	N5
	8.75	PM		1.299999	45	D12	N4
	9.00	HC		0.0	45	D12	N6
	9.25	FL		0.300000	45	D12	N1
	10.25	HC	MIXED FUEL BOILERS (OIL & REFUSE)	0.285000	10	A07	N5
	10.50	PM		0.200000	10	A07	N5
	10.75	SO		0.010000	10	A07	N6
	11.00	NO		13.799999	10	A07	N4
	12.00	HC	(AGG) TUNNEL KILNS(OIL),DRYERS AND STORAGE	0.0	45	D11	N5
	12.25	PM		1.299999	45	D11	N4
	12.50	SO		0.040000	45	D11	N6
	12.75	FL		0.300000	45	D11	N1
	13.75	HC	(AGG) TUNNEL KILNS(GAS),DRYERS AND STORAGE	0.0	45	D10	N6
	14.00	PM		1.299999	45	D10	N4
	14.25	FL		0.300000	45	D10	N1
	15.25	HC	(AGG) PERIODIC KILNS(COAL),DRYERS AND STORAGE	0.0	46	D12	N6
	15.50	PM		1.299999	46	D12	N4
	15.75	SO		1.200000	46	D12	N5
	16.00	FL		0.300000	46	D12	N1
	17.00	HC	(AGG) PERIODIC KILNS(GAS),DRYERS AND STORAGE	0.0	46	D10	N6
	17.25	PM		1.299999	46	D10	N4
	17.50	FL		0.300000	46	D10	N1
	18.50	HC	(AGG) PERIODIC KILNS(OIL), DRYERS AND STORAGE	0.0	46	D11	N6
	18.75	PM		1.360000	46	D11	N4
	19.00	SO		0.060000	46	D11	N6
	19.25	NO		1.700000	46	D11	N5
	19.50	FL		0.300000	46	D11	N1
	20.50	NO	CERAMIC CLAY MFG	0.200000	40	D10	M6
	20.75	FL		0.300000	40	D10	M2
	21.75	NO	NITRATE FERTILIZER (AMMONIUM NITRATE) PLANTS	0.003000	30	A05	M6
	22.00	PM		0.180000	30	A05	M1
	23.00	PM	PESTICIDES MANUFACTURING	0.100000	55	A01	M2
	24.00	PM	(AGG) CASTABLE REFRACTORY PLANTS	8.400000	40	D08	M1
	24.25	FL		0.130000	40	D08	M1
	25.25	PM	BORAX BORIC ACID	1.620000	20	A15	M2
	26.25	PM	(AGG) NON-METALLIC MINING - FLUORSPAR	6.000000	47	F01	N1
	26.50	FL		0.100000	47	F01	N1
	27.50	PM	POLYESTER RESIN	0.350000	20	B19	M5
	28.50	PM	AMMONIUM SULFATE	1.000000	30	D20	M4
	29.50	PM	STARCH MFGR	0.020000	30	D18	M5
	30.50	PM	SYNTHETIC FIBERS INDUSTRY (DACRON POLYESTER)	0.350000	20	B08	M4
	31.50	PM	HYDROGEN FLUORIDE	1.009999	20	A17	M4
	32.50	PM	PERLITE (VERTICAL FURNACE)	0.210000	40	D12	M5
1982.5							
	1.50	PM	PHOSPHORIC ACID PLANTS (THERMAL PROCESS)	0.134000	20	A10	M5
	2.50	PM	COTTON GINNING	0.480000	30	B01	N4
	3.50	PM	URANINUM REFINING	0.010000	50	F01	N5
	4.50	PM	ALFALFA DEHYDRATING PLANTS	0.236000	30	D01	N5
	5.50	PM	(AGG) CLAY SINTERING PLANTS	1.099999	40	D16	N5
	6.50	PM	ANIMAL FEED DEFLUORINATION	0.062500	30	D10	N5
	6.75	FL		0.433000	30	D10	N1
	7.75	PM	UREA	1.360000	20	B21	M6
	8.75	PM	DETERGENT MANUFACTURING PLANTS	0.450000	20	C10	M6
	9.75	FL	PHOSPHORIC ACID PLANTS (WET PROCESS)	0.005000	20	A07	M2
	10.75	HS	SYNTHETIC FIBERS INDUSTRY (VISCOSE RAYON)	1.599999	20	B06	M2

Table 3-2 (Cont'd)

Definitions Applicable to Prioritized NSPS Schedules

Cumulative Effort

One effort level is defined as the effort expended for the first pollutant standard set for a source category. For each additional pollutant standard set for the same source category, it is assumed that 1/4 of an effort level will be expended.

Therefore, the number of effort levels expended in any six-month time period will usually be less than the total number of source category-pollutant standards set. The greater the number of multi-pollutant source categories for standard setting in a time period the greater the difference between the cumulative effort level and the actual count of source category-pollutant standards.

Standard Used

This value reflects the best anticipated level of emission reduction (i.e. the NSPS allowable emission (En) in lb pollutant/unit of production).

Code

The five-character identifier specifying a unique source category. This identifier can be used to cross-reference source category data from different data listings.

M/N Flag

M-Mobile Source Category

N-Non-Mobile Source Category

Numerical Flag

	Category Air Quality Impact Change[a]	
Flag	Es	En
1	High	High
2	High	Moderate
3	High	Low
4	Moderate	Moderate
5	Moderate	Low
6	Low	Low

[a]The numerical air quality impact flag denotes the change in air quality impact from the state emission limitation limitation (Es) to the NSPS limitation (En).

Table 3-3. Data Change Impact on Prioritized List of Major Sources

Major Source Category	Rank in Prioritized List			
	Original		Revised	
	Actual	Normalized	Actual	Normalized
Ammonium Sulfate	87	56	134	91
Polystyrene Production	116	74	107	72
Cotton Ginning[a]	146	94	140	95
Metal Coil Coating (ISC)	65	42	55	37
Fabric Coating (ISC)	12	8	16	11
Auto Surface Coating (ISC)	21	14	63	43
Large Appliance Coating (ISC)[a]	73	47	64	43
Beer Production	37	24	79	53
Gypsum Mining (AGG)	28	18	24	16
Fluorspar Industry	135	87	131	89
Potash	81	52	74	50
Sand & Gravel	27	17	23	16
Vegetable Oil	44	28	54	37
Carbon Black	4	3	12	8
Polypropylene	120	77	120	81
Gravure (Graphic Arts)	13	8	9	6
Letterpress (Graphic Arts)	75	48	66	45
Flexography (Graphic Arts)	67	43	58	39
Formaldehyde	5	3	48	32
By-Product Coke Oven	14	9	57	39
Alfalfa Dehydrating	148	95	142	96
Brick & Related Clay Products[a]				
Periodic Kiln (Gas)	126	81	118	80
Chemical Wood Pulping				
Acid Sulfite	36	23	100	68
Chemical Wood Pulping				
NSSC	34	22	19	13
Total	156	~100	148	~100

[a]Source category was revaluated but no data change was deemed warranted.

prioritization schedule emission reduction is bounded for comparative purposes by the worst possible case of no NSPS standards set during the ten year period and the best possible case of all NSPS standards set in the base year, 1980.

Table 3-4 compares well to Table 3-14[2] reflecting the original data set. There are only small differences in the percent change of pollutant emissions in the case where all NSPS are set in the base year. This indicates that large differences in percent changes in the case of no NSPS set (i.e., CO and Pb) are primarily due to growth factors. Also, source categories characterized by decreasing capacity and zero replacement rate such as Grey Iron Cupola were deleted from the list. The revised data set indicates a slightly better reduction in particulate emissions and lead emissions and a slight increase in sulfur dioxide emissions and nitrogen oxide emissions.

4 EPA LIST

Table 3-5 indicates the EPA prioritized list based on EPA aggregation of source categories from the ANL list. Table 3-5 compares the proposed EPA list (43FR38872, August 31, 1978) with the revised list resulting from data set revaluations and the final list resulting from both data set revaluations and corrections made to the prioritization program routine (i.e., eliminating zero Ts-Tn pollutant/source category data sets for standard setting).

Table 3-4. Impacts of Prioritization Strategies on Emissions

	Source Categories Regulated	NSPS Pollutant Standards Set	Percent Change in 1990 Emissions Over Base Year (1980)								
			PM	SO_2	NO_2	HC	CO	PB	AM	H_2S	FL
1. No NSPS	0	0	29.2	16.3	53.4	71.8	45.5	86.9	46.0	23.9	22.0
2. All NSPS Immediately	148	295	-7.2	12.8	23.5	-29.5	-25.9	-26.9	-35.1	-44.0	-21.9
3. Baseline Strategy	~49[a]	~98[a]	-2.1	13.2	25.2	-23.7	-22.3	-20.5	-23.0	-40.2	-13.0

[a]Indicates yearly rate. Baseline Strategy requires all standards to be set in three year period starting in 1980.

Table 3-5. REVISED DATA SET IMPACT ON EPA PRIORITIZED LIST FOR NSPS PROMULGATION

Priority Rank	Proposed EPA List 43FR38872, August 31, 1978	Revised EPA List Jan. 79	2nd Revision[a] March 79
1	Synthetic Organic Chemical Mfgr.	Synthetic Organic Chemical Mfgr.	Synthetic Organic Chemical Mfgr.
2	Carbon Black	Industrial Surface Coatings: Cans	Industrial Surface Coating: Cans
3	Industrial Surface Coatings: Cans	Petroleum Refinery: Fugitive Sources	Petroleum Refinery: Fugitive Sources
4	Petroleum Refinery: Fugitive Sources	Industrial Surface Coating: Paper	Industrial Surface Coating: Paper
5	Industrial Surface Coating: Paper	Dry Cleaning	Dry Cleaning
6	Dry Cleaning	Graphic Arts	Graphic Arts
7	Fuel Converstion	Incineration: Industrial-Commercial	Polymers and Resins: Acrylic Resins
8	Industrial Surface Coating: Fabric	Polymers and Resins: Acrylic Resins	Mineral Wool
9	Graphic Arts	Carbon Black	Stationary Internal Combustion Engines
10	By-Product Coke Oven	Mineral Wool	Industrial Surface Coating: Fabric
11	Incineration: Industrial-Commercial	Stationary Internal Combustion Engines	Fossil-Fuel-Fired Steam Generators: Industrial Boilers
12	Polymers and Resins: Acrylic Resins	Industrial Surface Coating: Fabric	Incineration: Non-Municipal
13	Mineral Wool	Fossil-Fuel Fired Steam Generators: Industrial Boilers	Non-Metallic Mineral Processing
14	Stationary Internal Combustion Engines.	Chemical Wood Pulping: Neutral Sulfite (NSSC).	Metallic Mineral Processing

[a]Reflects eliminating zero Ts - Tn pollutant/source category data sets.

Priority Rank	Proposed EPA List 43FR38872, August 31, 1978	Revised EPA List Jan. 79	2nd Revision[a] March 79
15	Industrial Surface Coating: Automobiles	Stationary Pipeline Compressor Engines	Secondary Copper
16	Fossil-Fuel-Fired Steam Generators: Industrial Boilers	Non-Metallic Mineral Processing	Phosphate Rock Preparation
17	Explosives	Metallic Mineral Processing	Foundries
17a	Stationary Pipeline Compressor Engines	--	--
18	Non-Metallic Mineral Processing	Secondary Copper	Polymers and Resins: Polyethylene
19	Metallic Mineral Processing	Phosphate Rock Preparation	Charcoal
20	Secondary Copper	Foundries: Grey Iron	Synthetic Rubber
21	Phosphate Rock Preparation	Polymers and Resins: Polyethylene	Vegetable Oil
22	Chemical Wood Pulping: Neutral Sulfite (NSSC)	Charcoal	Industrial Surface Coating: Metal Coil
23	Foundries: Grey Iron	Synthetic Rubber	Transportation & Marketing(Petroleum)
24	Chemical Wood Pulping: Acid Sulfite	Vegetable Oil	By-Product Coke Oven
25	Crude Oil and Natural Gas Production	Industrial Surface Coating: Metal Coil	Synthetic Fibers
26	--	Transportation and Marketing	Plywood Manufacture
27	Vegetable Oil	By-Product Coke Oven	Industrial Surface Coating: Autos
28	Synthetic Rubber	Synthetic Fibers	Industrial Surface Coating: Large Appliance Coating
29	Varnish	Plywood Manufacture	Crude Oil and Natural Gas Production
30	Polymers and Resins: Polyethylene	Industrial Surface Coating: Automobiles	Secondary Aluminum
31	Charcoal	Industrial Surface Coating: Large Appliance Coating	Potash

[a]Reflects eliminating zero Ts - Tn pollutant/source category data sets.

Priority Rank	Proposed EPA List 43FR38872, August 31, 1978	Revised EPA List Jan. 79	2nd Revision[a] March 79
32	Industrial Surface Coating: Metal Coil	Crude Oil and Natural Gas Production	Sintering: Gray and Flyash
33	Transportation and Marketing	Secondary Aluminum	Glass
34	Printing Ink	Potash	Gypsum
35	Synthetic Fibers	Sintering: Clay and Flyash	Sodium Carbonate
36	Plywood Manufacture	Foundries: Steel	Secondary Zinc
37	Industrial Surface Coating: Large Appliances	Glass	Polymers and Resins: Phenolic
38	Glass	Gypsum	Polymers and Resins: Urea-Melamine
39	--	Sodium Carbonate	Ammonia
40	Potash	Gasoline Additives	Polymers and Resins: Polystyrene
41	Foundries: Steel	Secondary Zinc	Polymers and Resins: ABS-SAN Resins
42	Secondary Aluminum	Polymers and Resins: Phenolic	Fiberglass
43	Sintering: Clay and Flyash	Chemical Wood Pulping: Acid Sulfite	Polymers and Resins: Polypropylene
44	Ammonium Sulfate	Polymers and Resins: Urea-Melamine	Asphalt Roofing Plants
45	Gypsum	Ammonia	Bricks and Related Clay Products
46	Sodium Carbonate	Polymers and Resins: Polystyrene	Ceramic Clay Mfg.
47	Hydrofluoric Acid	Polymers and Resins: ABS-SAN Resins	Ammonium Nitrate Fertilizer
48	Fiberglass	Fiberglass	Castable Refractories
49	Brick and Related Clay Products	Textile Processing	Borax and Boric Acid

[a]Reflects eliminating zero Ts - Tn pollutant/source category data sets.

Priority Rank	Proposed EPA List 43FR38872, August 31, 1978	Revised EPA List Jan. 79	2nd Revision[a] March 79
50	Polymers and Resins: Phenolic Resins	Asphalt Roofing Plants	Polymers and Resins: Polyester Resins
51	Polymers and Resins: Urea-Melamine	Brick and Related Clay Products	Ammonium Sulfate
52	Ammonia	Polymers and Resins: Polypropylene	Starch
53	Polymers and Resins: Polystyrene	Ceramic Clay Mfg.	Perlite
54	Polymers and Resins: ABS-SAN Resins	Ammonium Nitrate Fertilizer	Phosphoric Acid: Thermal Process
55	Polymers and Resins: Polypropylene	Castable Refractories	Uranium Refining
56	Textile Processing	Borax and Boric Acid	Animal Feed Defluorination
57	Asphalt Roofing Plants	Polymers and Resins: Polyester Resins	Urea (for fertilizer and polymers)
58	Ceramic Clay	Ammonia Sulfate	Detergent
59	Ammonium Nitrate Fertilizer	Starch	--
60	Castable Refractories	Perlite	--
61	Borax and Boric Acid	Phosphoric Acid: Thermal Process	--
62	Polymers and Resins: Polyester Resins	Uranium Refining	--
63	Starch	Alfalfa Dehydrating	--
64	Perlite	Animal Feed Defluorination	--
65	Phosphoric Acid: Thermal Process	Urea (for fertilizer and polymers)	--
66	Secondary Zinc	Detergent	--
67	Uranium Refining	--	--
68	Alfalfa Dehydrating	--	--

[a]Reflects eliminating zero Ts - Tn pollutant/source category data sets.

Priority Rank	Proposed EPA List 43FR38872, August 31, 1978	Revised EPA List Jan. 79	2nd Revision[a] March 79
69	Animal Feed Defluorination	--	--
70	Urea (for fertilizer and polymers)	--	--
71	Detergent	--	--
72	Gasoline Additives	--	--

Source Categories Dropped - Ts - Tn for all pollutants zero[a]

Acetic Acid (Butane) 20A13, HC, CO

Fiberglass (Textile Process) 40D06, PM, NO, CO, FL

Stone Quarrying 40A01, PM

Synthetic Rubber 20D01, PM

Textile Mfgr. (Heat Setting/Finishing) 90F02, HC

Gasoline Additives (Electrolytic) 70F02 Pb

Gasoline Additives (Sodium-Lead) 70F01 Pb

[a]Reflects eliminating zero Ts-Tn pollutant/source category data sets.

REFERENCES

1. *Clean Air Act Amendments of 1977*, Pl-95-95 (Aug. 7, 1977).

2. Monarch, M.R., R.R. Cirillo, B.H. Cho, G.A. Concaildi, A.E. Smith, E.P. Levine, and K.L. Brubaker, *Priorities for New Source Performance Standards Under the Clean Air Act Amendments of 1977*, EPA-450/3-78-019, Argonne National Laboratory, Argonne, Illinois (April 1978).

3. Habegger, L.J., R.R. Cirillo, N.F. Sather, *Priorities and Procedures for Development of Standards of Performance for New Stationary Sources of Atmospheric Emissions*, EPA Report No. EPA-450/3-76-020, Argonne National Laboratory, Argonne, Illinois (May 1976).

4. Hopper, T.G., W.A. Marrone, *Impact of New Source Performance Standards on 1985 National Emission from Stationary Sources*, Report Nos. EPA-450/3-017 and -018a,b,c,d,e,f and -019a,b,c, TRC, Inc., Wethersfield, Connecticut (May 1976).

ANL
12/78-1/79

MAJOR SOURCE

CODE CHANGE INSTRUCTION SHEET

Source Category (Code No.)	Pollutant[a]	Data	Change From	Change To	Remarks/S.C. Pollutants
Polystyrene (20B05)		Pb	.058(c)	.02(s)	HC Symbols for growth rate erroneously assigned on calc. sheet
		Pc	.02(s)	.058(c)	
Ammonium Sulfate (30D20)		Pc	.116(c)	0	PM Updated data
		-	-	-	
Metal Coil (63B02) ISC		A	15.56(10^6)	18.71(10^6)	HC
		-	-	-	
Fabric Coating (64B02) ISC	HC	Es	5.34	4.65	HC
		A	34.(10^6)	70.2(10^6)	
Auto Surface Coating (62B02) ISC	HC	A	42.6(10^6)	58.1(10^6)	HC
		Es	5.34	3.60	
Beer Production (30D09)	HC	Eu	10.9	0	PM, HC Remove
	HC	Es	10.9	0	HC only
		En	.109	0	
Grey-Iron Cupola (50-C04)		All	-	0	PM, CO, Pb Remove source from list
		-	-	0	
Gypsum-Mining (42F02)		A	17.14(10^6)	13.94(10^6)	PM
		Pc	.031(c)	.018(s)	
Gypsum-Curshing (42F03)		A	17.14(10^6)	13.94(10^6)	PM
		Pc	.031(c)	.018(s)	
Gypsum-Drying (42F04)		A	17.14(10^6)	13.94(10^6)	PM
		Pc	.031(c)	.018(s)	
Fluorspar Mining (47F02)		K	.80	.83	PM
		Pc	.044(c)	0	

[a] Only emission rates are pollutant specific, all other values will impact all source category pollutant emissions.

PM-Particulate Matter, So_2-Sulfur Dioxide, HC-Hydrocarbons, CO-Carbon Monoxide, NO_x-Nitrogen Oxides, Pb-Lead, H_2S-Hydrogen Sulfide, Fl-Fluorides, A.M.-Sulfuric Acid Mist

ANL
12/78-1/79

MAJOR SOURCE

CODE CHANGE INSTRUCTION SHEET

Source Category (Code No.)	Pollutant[a]	Data	Change From	Change To	Remarks/S.C. Pollutants
Fluorspar Dryer (47F03)		K	.80	.83	PM, FL
		Pc	.044(c)	0	
Fluorspar Crush & Scrap (47F04)		K	.80	.83	PM
		Pc	.044(c)	0	
Potash (20-A18)		K	.78	.87	NO_x, PM
		Pc	.03(c)	.029(s)	
		A	$6.82(10^6)$	$6.58(10^6)$	
Sand & Gravel (40A02)		Pc	0	.01(s)	PM
		A	$1142(10^6)$	$1296(10^6)$	
Vegetable Oil* (30D11)	HC	En	15.2	16.7	PM, HC Growth for these. Emission change for HC only. ton/yr vegetable oil
	HC	Es	37.9	25.6	
	HC	Eu	38	86.4	
		Pc	.027(s)	.013(s)	
		K	.92	.80	
		A	$7.4(10^6)$	$5.55(10^6)$	
Carbon Black (20C03)		A	$2.36(10^6)$	$2.08(10^6)$	
		Pc	.025(c)	.025(s)	
	HC	Eu	100	56	
	HC	Es	100	56	
	HC	En	.1	.8	
	CO	Eu	2800	2048	
	CO	Es	2800	2048	
	CO	En	2.8	9.8	
	PM	Eu	200	41	
	PM	Es	3.1	41	
	PM	En	1.1	2	
	SO_2	Eu	-	104	Add E Values for SO_2
	SO_2	Es	-	104	
	H_2S	Eu	60	56	
	H_2S	Es	60	56	
	H_2S	En	.06	.6	

[a]Only emission rates are pollutant specific, all other values will impact all source category pollutant emissions.

PM-Particulate Matter, So_2-Sulfur Dioxide, HC-Hydrocarbons, CO-Carbon Monoxide, NO_x-Nitrogen Oxides, Pb-Lead, H_2S-Hydrogen Sulfide, Fl-Fluorides, A.M.-Sulfuric Acid Mist

MAJOR SOURCE

CODE CHANGE INSTRUCTION SHEET

Source Category (Code No.)	Pollutant[a]	Data	Change From	Change To	Remarks/S.C. Pollutants
Carbon Black (20C03)	SO_2	En	-	104	Add value
		-	-	-	
Graphic Arts Gravure (60B04)		Pc	.050(c)	.091(s)	HC
		A	.16(10^6)	.182(10^6)	
Graphic Arts Flexography (60B05)		Pc	.050(c)	.037(s)	HC
		A	.07(10^6)	.055(10^6)	
Graphic Arts Letter Press (60B07)		Pc	.050(c)	.019(s)	
		A	.15(10^6)	.10(10^6)	
Polypropylene (20B07)		K	.78	.89	HC,PM
		Pc	.12(c)	.13(c)	
Formaldehyde (20C08)		A	8.55(10^6)	3.67(10^6)	HC,CO
		Pc	.094(c)	.05(c)	
By-Product Coke Oven (50A10)	PM	Es	5	2.50	PM,SO_2,NO_x,HC & CO - Change for all pollutants
	SO_2	Es	5.75	2.88	
	NO	Es	.057	.029	
	HC^x	Es	5.98	2.99	
	CO	Es	2.67	1.34	
Steel Open Hearth (50D02)	All	Pc	.028(s)	0	PM,NO_x Remove source category from list
	All	Pb	.073(s)	0	
	All	All			
Varnish (20C15)	All	Pc	.067(s)	0	HC Remove source from list
	All	Pb	.0263(c)	0	
Printing Ink (20C19)	HC	Eu	120	35.10	All E's lb/ton ink-Note, reclassify source as Minor
	HC	En	4.8	1.40	
	HC	Es	48	35.10	
		Z	2.945(10^3)	362	
		All	MAJ	MIN	

[a]Only emission rates are pollutant specific, all other values will impact all source category pollutant emissions.

PM-Particulate Matter, So_2-Sulfur Dioxide, HC-Hydrocarbons, CO-Carbon Monoxide, NO_x-Nitrogen Oxides, Pb-Lead, H_2S-Hydrogen Sulfide, Fl-Fluorides, A.M.-Sulfuric Acid Mist

MAJOR SOURCE

CODE CHANGE INSTRUCTION SHEET

Source Category (Code No.)	Pollutant[a]	Data	Change From	Change To	Remarks/S.C. Pollutants
Alfalfa Dehydrating (30D01)		Z	$.0624(10^6)$	$.0204(10^6)$	PM
High Btu Gasification (21C20)		All			HC, SO_2 Remove source category from list
Chemical Wood Pulp Acid Sulfide (80A04)	SO_2	Es	61	39.4	SO_2, PM
	SO_2	En	3.1	11.9	
	SO_2	Eu	61	81.72	
		Pc	0	- .014(c)	
		A	$3.78(10^6)$	$3.01(10^6)$	
	PM	Es	3.00	3.58	
	PM	En	2.00	2.44	
	PM	Eu	24.00	3.60	
		K	.66	.91	
Chemical Wood Pulp NSSC (80A03)		A	$5.86(10^6)$	$3.91(10^6)$	
		Pc	.048(s)	.0197(s)	
	PM	Eu	-	158(lb/ton)	Add value
	PM	En	-	3.4 "	
	PM	Es	-	158(lb/ton)	
	SO_2	Eu	61	1.54	
	SO_2	En	3.1	.046	
	SO_2	Es	61	1.54	
		K	.94	.85	
Hydrofluoric Acid Plants (20A08)		All			Fl Remove source category from list
High Explosives (20-C19)		All			NO, PM, SO_2, AM Remove source category from list

[a] Only emission rates are pollutant specific, all other values will impact all source category pollutant emissions.

PM-Particulate Matter, So_2-Sulfur Dioxide, HC-Hydrocarbons, CO-Carbon Monoxide, NO_x-Nitrogen Oxides, Pb-Lead, H_2S-Hydrogen Sulfide, Fl-Fluorides, A.M.-Sulfuric Acid Mist

MAJOR SOURCE

CODE CHANGE INSTRUCTION SHEET

Source Category (Code No.)	Pollutant[a]	Data	Change		Remarks/S.C. Pollutants
			From	To	
Low Explosive	All				Remove source category from list

[a]Only emission rates are pollutant specific, all other values will impact all source category pollutant emissions.

PM-Particulate Matter, So_2-Sulfur Dioxide, HC-Hydrocarbons, CO-Carbon Monoxide, NO_x-Nitrogen Oxides, Pb-Lead, H_2S-Hydrogen Sulfide, Fl-Fluorides, A.M.-Sulfuric Acid Mist

MINOR SOURCE

CODE CHANGE INSTRUCTION SHEET

Source Category (Code No.)	Pollutant[a]	Data	Change From	Change To	Remarks/ S.C. Pollutants
Wood Furni- (65-B02)	HC	Es	5.34	4.65	HC
		A	$10.3(10^6)$	$165(10^6)$	
Metal Furniture (64-B03)		A	$9.39(10^6)$	$51.8(10^6)$	HC
Mica Mining (46-F02)		K	.80	.87	PM
		Pc	.017(c)	.044(s)	
		A	$.18(10^6)$	$.212(10^6)$	
Mica Drying (46-F03)		K	.80	.87	PM
		Pc	.017(c)	.044(s)	
		A	$.18(10^6)$	$.212(10^6)$	
Lead Pigment Red (21A21)		Pc	.026(c)	.014(s)	Pb
		A	$.0266(10^6)$	$.0384(10^6)$	
Lead Pigment White (22A21)		Pc	.026(c)	.014(s)	Pb
		A	$.00467(10^6)$	$.0067(10^6)$	
Lead Pigment Chrome (23A21)		Pc	.026(c)	.014(s)	Pb
		A	$.0685(10^6)$	$.0990(10^6)$	
Graphic Arts Lithography (60B06)		Pc	.050(c)	.101(s)	HC
		A	$.08(10^6)$	$.103(10^6)$	
Polyisoprene (20D05)		Pc	.030(c)	.07(c)	HC
		A	$.085(10^6)$	$.134(10^6)$	
Printing Ink Mfgr (20C19)		All	MAJ	MIN	Source reclassification - Note Major Source change Sheet

[a] Only emission rates are pollutant specific, all other values will impact all source category pollutant emissions.

PM-Particulate Matter, So_2-Sulfur Dioxide, HC-Hydrocarbons, CO-Carbon Monoxide, NO_x-Nitrogen Oxides, Pb-Lead, H_2S-Hydrogen Sulfide, Fl-Fluorides, A.M.-Sulfuric Acid Mist